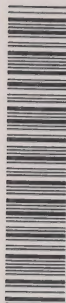


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Ontario

**Ministry of
Energy**

ENERGY IN ONTARIO

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ONTARIO ENERGY HIGHLIGHTS 1975

In 1975, the rate of increase in total energy consumption declined further. Use of oil and natural gas decreased and was accompanied by decreases in deliveries to Ontario.

Oil continued to be the major source of energy. Use of electricity increased but at a lower rate than in 1974. Less coal and uranium were used for thermal generation of electricity. Use of coal for other industrial purposes increased.

1975 marked the initial use by Ontario Hydro of residual fuel oil for thermal generation of electricity in the new Lennox oil-fired station near Kingston.

Ontario Hydro continued negotiations for additional future coal supplies from western Canada.

PRIMARY ENERGY CONSUMPTION IN ONTARIO 1975

Total primary energy consumed in 1975 was $2,815 \times 10^{12}$ BTUs (British Thermal Units), an increase of less than 1 percent over 1974. Consumption during the 15 year survey period from 1960 is shown at Figure 2. Relative shares of fuels are shown in pie chart format in Figure 1 for the two years 1960 and 1975.

Over the survey period, energy consumption in Ontario has accounted for around 35 percent of total Canadian energy consumption.

During 1975, use of oil decreased. Oil continues to supply the largest share of Ontario's energy requirements but its proportion of total energy consumption has decreased over the survey period.

Natural gas consumption also decreased in 1975. Following initial deliveries from western Canada in 1958, natural gas consumption has grown rapidly and has increased its share to nearly a quarter of total energy consumption.

Coal consumption increased in 1975 and its share of total energy consumption rose to over 15 percent. About half of the coal consumed was used for thermal generation of electricity.

Electricity consumption increased by less than 1 percent in 1975. Hydraulic generation has accounted for a declining proportion of electricity produced with an increased contribution from thermal generation.

PRIMARY ENERGY CONSUMPTION BY SOURCE AS PERCENT OF TOTAL CONSUMPTION IN ONTARIO

FIGURE 1



TABLE 1

Ontario Energy Consumption Annual Percent Increases

	<u>1975</u>	<u>1974</u>	<u>1973</u>	<u>1972</u>
Oil	-2.9	2.8	3.9	3.6
Natural Gas	-2.6	11.3	3.7	20.3
Coal	18.0	-11.2	-8.7	1.3
Electricity:				
Hydro	-7.2	1.4	-1.1	8.3
Nuclear	-14.4	-2.8	133.0	57.1
Purchases (Net)	72.9	44.7	4.9	-6.0
Total Electricity	0.6	5.1	6.6	8.4
TOTAL ENERGY	0.3	2.7	3.9	8.0

Figure 2

PRIMARY ENERGY CONSUMPTION IN ONTARIO 1960-1975

(10^{12} BTU)

ENERGY SOURCE	1960	1965	1970	1971	1972	1973	1974	1975
Oil	636	824	1,024	1,034	1,071	1,112	1,143	1,110 ¹
Natural Gas	106	244	440 ¹	495	595	617	687	669
Coal ¹	298	403	476	439	445	407	361	426
Hydraulic Electricity	350	331	391	381	413	408	414	384
Nuclear Electricity	-	-	10	39	61	143	139	119
Purchased Electricity	13	44	56	43	41	42	61	107
Total	1,403	1,846	2,397	2,431	2,626	2,729	2,805	2,815

Figure 3

PERCENTAGES

ENERGY SOURCE	1960	1965	1970	1971	1972	1973	1974	1975
Oil	45.3	44.6	42.7	42.5	40.8	40.8	40.7	39.4
Natural Gas	7.5	13.2	18.4	20.3	22.7	22.6	24.5	23.8
Coal	21.3	21.9	19.9	18.1	17.0	14.9	12.9	15.1
Hydraulic Electricity	24.9	17.9	16.3	15.7	15.7	14.9	14.8	13.7
Nuclear Electricity	-	-	0.4	1.6	2.3	5.2	4.9	4.2
Purchased Electricity	1.0	2.4	2.3	1.8	1.5	1.6	2.2	3.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

CONVERSION FACTORS

Oil: 5.8×10^6 BTU/barrel All electricity: 10,000 BTU/kilowatt hour

Natural Gas: 1.0×10^6 BTU/thousand cubic feet. Note: The conversion factor adopted for all electricity is the equivalent thermal energy assuming efficiency of conversion is that of a coal-burning plant.

Coal: 26.2×10^6 BTU/short ton

Note:

1. Includes use in thermal generation of electricity; natural gas from 1970, oil from 1975.

OIL IN ONTARIO

General

In 1975, Ontario consumed some 524,000 barrels a day of refined petroleum products, a decrease of nearly 3 percent from 1974 levels. Oil continued to supply around 40 percent of Ontario's energy needs while Ontario consumption accounted for over 30 percent of total oil used in Canada.

Refinery capacity increased by 3 percent but refinery output decreased by 1 percent from 1974 levels. Refined product imports decreased and exports increased. Transfers of products both from and to other provinces were higher. Ontario oil production again decreased and provided less than 1 percent of total requirements. There were further increases both in crude oil costs and the selling prices of petroleum products.

Crude Oil

Crude oil supplies from western Canada decreased 7 percent in 1975 to around 440,000 bpd after a 13 percent increase in 1973. Trans-shipments via the St. Lawrence Seaway to Quebec accounted for less than 1 percent of total crude oil supplied to Ontario from the West. (These trans-shipments are to be discontinued with the completion of the Interprovincial Pipe Line extension from Sarnia to Montreal.)

Supplies from Alberta represented 82 percent of the Ontario crude supply. Supplies from Saskatchewan provided

about 16 percent and shipments from Manitoba accounted for 1 percent of total supply.

Imports of foreign crude oil from Venezuela provided less than 1 percent of total supply.

The delivered cost of Canadian crude oil to Ontario increased during 1975, mainly from the increase in the average wellhead prices of Alberta crude from \$6.50/barrel to \$8.00/barrel which took effect on July 1, 1975. On April 1, 1975, Interprovincial Pipe Line raised its tariffs from Edmonton to Toronto by 6 cents per barrel.

Table 2

Ontario Oil Balance 1975 (1)

	Quantities in Thousands of Barrels	of Total	Percent Changes	
			1975/74	1974/73
<u>Supply</u>				
Crude oil:				
Ontario production	704	0.3	-4.1	-9.2
From Western provinces (2)	161,015	77.2	-7.1	12.7
Imports from Venezuela	298	0.1	338.2	-86.3
Transfers to Quebec	-1,028	-0.5	-87.8	71.8
Net transfers and other materials	2,312	1.1	Ø	Ø
Total run to stills	163,301	78.2	- 1.2	10.0
Products:				
Transfers from other provinces	36,580	17.5	14.2	-19.4
Imports	2,747	1.3	-36.6	-21.4
Other receipts	6,171	3.0	- 5.6	- 2.9
Total product receipts	45,498	21.8	6.0	-17.6
Total Supply	208,799	100.0	0.3	2.9
<u>Disposition of products</u>				
Consumption:				
Sales	181,302	86.8	- 2.9	2.7
Company use	10,099	4.8	- 2.7	3.1
Total consumption	191,401	91.6	- 2.9	2.7
Other:				
Transfers to other provinces	4,433	2.1	29.1	-27.9
Exports	10,151	4.9	43.6	51.8
Inventory changes	3,028	1.5	Ø	Ø
Losses	-214	-0.1	Ø	Ø
Total other disposition	17,398	8.4	54.7	6.6
Total disposition	208,799	100.0	0.3	2.9

(1) Based on Statistics Canada 45-004.

(2) Crude oil, condensate and pentanes plus, comingled propane and butane mixes.

Table 3

Canadian Oil Requirements in Percent of Total for 1975

	<u>Ontario</u>	<u>Prairies & N.W.T.</u>	<u>Quebec & Maritimes</u>	<u>B.C.</u>	<u>Total</u>
Crude Receipts					
Canadian	26.4	17.2	0.4	8.4	52.4
Imported	0.1	-	49.1	-	49.2
Total	26.5	17.2	49.5	8.4	101.6
Net Product Exports	-1.2	-	-1.6	-	-2.8
Provincial Transfers ⁽¹⁾	5.0	-0.9	-4.3	1.4	1.2
Total Consumption	30.3	16.3	43.6	9.8	100.0

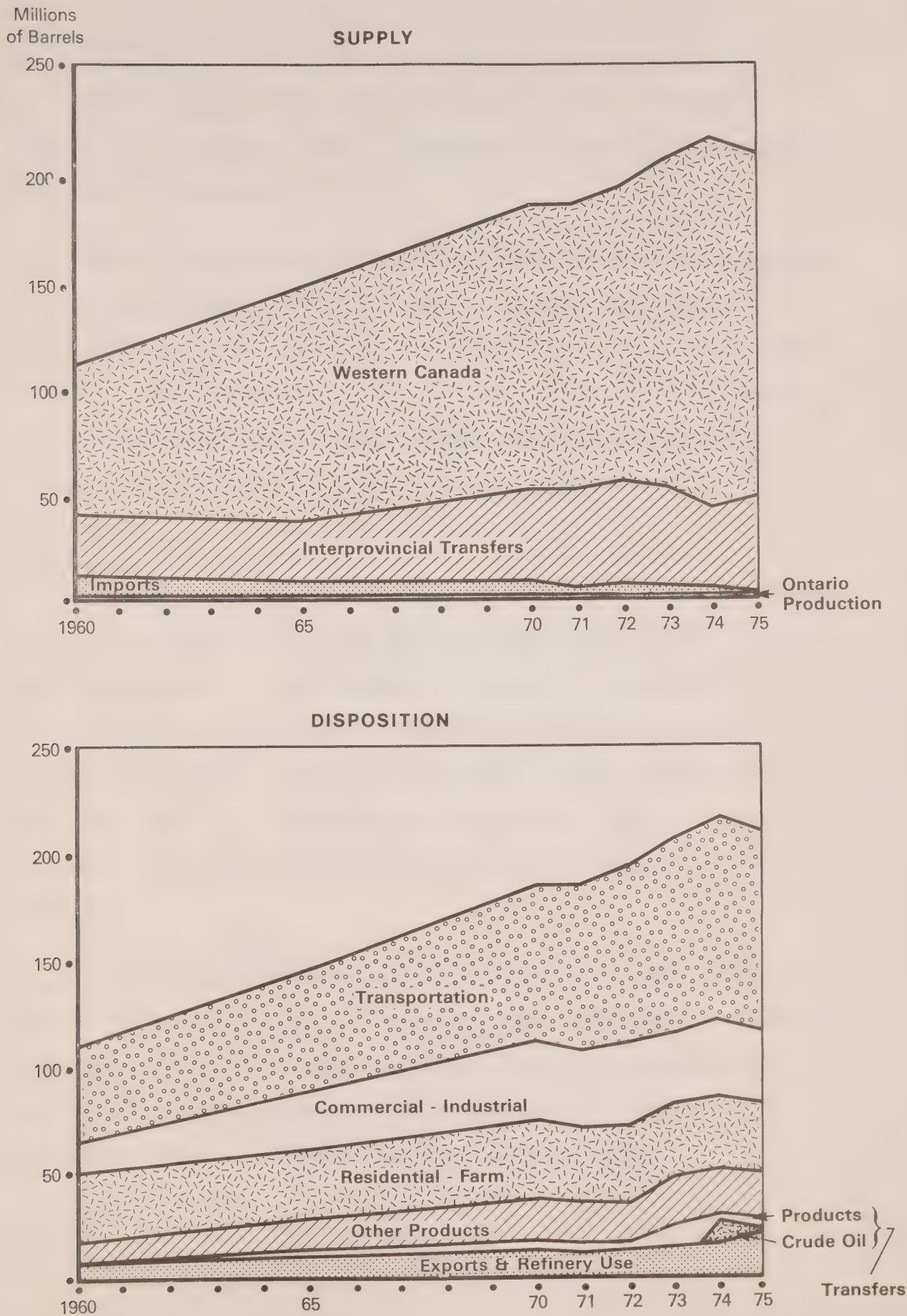
(1) Provincial transfers between provinces plus other materials to stills and inventory changes.

Source: Oilweek

OIL IN ONTARIO

Figure 4

Source: Statistics Canada No. 45-004, 57-207 & 57-505



Refined Petroleum Products

Ontario consumption of refined petroleum products during 1975 decreased nearly 3 percent to 524,000 bpd after a 3 percent increase in 1974.

Nearly three quarters of total consumption was accounted for by three major products - motor gasoline (40 percent), light fuel oil (18 percent), and heavy fuel oil (14 percent). Of these three products motor gasoline consumption increased by 2 percent over 1974 levels, light fuel oil decreased by nearly 9 percent and heavy fuel oil decreased by over 17 percent.

Ontario refinery production decreased 1 percent to around 447,000 bpd and represented about 85 percent of total provincial consumption. The balance of Ontario's consumption is mainly supplied by product transfers from other provinces, principally Quebec. Nearly 90 percent of motor gasoline and heavy fuel oil consumption was supplied from Ontario refinery production; for light fuel oil the proportion was 66 percent.

Imports of petroleum products from U.S.A. and offshore sources decreased nearly 37 percent from 1974 levels to about 7,500 bpd. Of total imports, light fuel oil accounted for nearly 4 percent and heavy fuel oil almost 10 percent. As in 1974, no motor gasoline imports were reported.

Exports of petroleum products to the U.S.A. increased nearly 44 percent over 1974 to about 28,000 bpd. Motor gasoline and light fuel oil each accounted for 10 percent of total product exports and heavy fuel oil for 75 percent.

The selling price of petroleum products in Ontario generally increased mainly resulting from the higher delivered costs of Canadian crude oil. In addition, the federal government imposed a 10 cent per gallon special excise tax on motor gasoline (for non-commercial use).

Table 4

Sources of Three Significant and All Petroleum Products 1975

Expressed as Percentages of Consumption and Changes

All Products

Heavy Fuel Oil

Light Fuel Oil

Motor Gasoline

	Consumption	Percent Change over 1974	Consumption	Percent Change over 1974	Consumption	Percent Change over 1974	Consumption	Percent Change over 1974	Consumption	Percent Change over 1974
	1974	1974	1974	1974	1974	1974	1974	1974	1974	1974

Refinery Production 89.4 3.5 66.2 -2.8 87.8 -3.7 84.8 -1.9 10.0

Transfers:

Interprovincial In

Out

Net

Interproduct

Inventory (net)

Imports:

Less Exports

Net Imports

Consumption '000 bbls

Percent 1975/74

1974/73

N/C: Not Comparable

Table 5

Ontario Net Sales of Petroleum Products 1975 (1)

	Quantities in Thousand Barrels	of Total	Percent Changes	
			1975/74	1974/73
Propane (2)	2,901	1.6	67.5	38.6
Butane & Butane Mixes	428	0.2	2417.6	1600.0
Petro-chemical Feed Stock	6,751	3.7	-15.6	5.7
Naptha Specialties	1,871	1.0	- 4.5	10.1
Aviation Gasoline	325	0.2	0.3	11.7
Motor Gasoline	77,672	42.9	2.5	2.3
Aviation Turbo Fuel	7,107	3.9	3.6	18.9
Kerosene, Stove Oil, Tractor Fuel	2,274	1.3	-9.8	-4.2
Diesel Fuel Oil	15,986	8.8	2.2	11.5
Light Fuel Oil (Nos. 2 & 3)	34,915	19.3	-8.9	0.6
Heavy Fuel Oil (Nos. 4, 5 & 6)	22,105	12.2	-17.3	-2.3
Asphalt	5,236	2.9	2.7	-5.9
Coke	421	0.2	12.9	25.1
Lubricating Oil & Grease	2,553	1.4	-3.6	0.7
Other Products	757	0.4	18.3	28.5
Total All Products	181,302	100.0	-2.9	2.7

(1) Based on Statistics Canada No. 45-004

(2) Represents Ontario refinery production from crude oil only.

Refinery Capacity

Ontario refinery capacity increased almost 3 percent to about 545,000 bpd which represents over 26 percent of the total refinery capacity in Canada. In 1975, Gulf Oil Canada completed a 25,000 bpd addition to its Clarkson plant, increasing its capacity to over 79,000 bpd. Shell Canada raised its Oakville refinery capacity 8 percent to 44,000 bpd. Construction of Texaco Canada's 95,000 bpd refinery at Nanticoke is expected to be completed by early 1978.

The world-scale petrochemical plant under construction near Sarnia by Petrosar Ltd. which will have an ultimate capacity to process 175,000 bpd of crude oil, is to be completed around mid-1977. Early in 1975, Sun Oil began construction of a petrochemical plant to produce over 2,000 bpd of benzene, toluene and xylenes at its Sarnia refinery. This project was completed in mid-1976.

Table 6

ONTARIO REFINING CAPACITY 1975

Primary Distillation Capacity at Year End
in Thousands of Barrels per Calendar Day.

Shell:	Oakville	44.0
	Corunna	80.0
Gulf:	Clarkson	79.1
B.P.:	Trafalgar	78.0
Imperial:	Sarnia	130.0
Texaco:	Port Credit	48.0
Sun Oil:	Sarnia	<u>85.5</u>
Total Ontario - Thousands B/CD		544.6
- as percent of Total Canada 26.2%		
(Total Quebec - as percent of Total Canada 30.8%)		

Source: Ontario Oil Industry

NATURAL GAS IN ONTARIO

General

In 1975, natural gas consumption in Ontario decreased nearly 3 percent to 657 billion cubic feet in comparison with 1974's increase of nearly 11 percent. Natural gas provided nearly 24 percent of Ontario's total energy consumption and its sales in Ontario accounted for about half of total sales of natural gas in Canada.

Supplies from western Canada decreased slightly and imports and exports both declined from 1974 levels. Greater use was made of storage facilities. The increased cost of gas supplied from western Canada resulted in higher costs for Ontario consumers.

During 1975, the National Energy Board issued a report "Canadian Natural Gas Supply and Requirements" on the results of hearings conducted across Canada from November 1974 to March 1975. Based upon information so developed, the Board reported that the production rate of natural gas from conventional producing areas (exclusive of possible supply from frontier areas) would be insufficient to meet domestic requirements by the mid-1980's. In October 1975, the Board commenced hearings on proposals to construct a pipeline from the Mackenzie Delta to carry frontier supplies to markets in southern Canada.

In 1975, the Ontario Government authorized investment through the Ontario Energy Corporation of up to \$10 million in the Polar Gas Project, a consortium to study the feasibility and development of a design for a large pipeline to bring natural gas from the Eastern Arctic Islands to southern Canadian markets.

Supplies

1975 output from Ontario gas wells located mainly in the southwestern region of the province increased by 45 percent to nearly 11 billion cubic feet and represented about 1 percent of total Ontario requirements. Production from wells in Lake Erie which supplied about half of total provincial production increased 6 percent.

Deliveries of natural gas from western Canada decreased 1 percent.

Gas imports from the U.S.A. declined further and provided around 1 percent of total supply. Exports of Canadian gas through Ontario which accounted for nearly 2 percent of total disposition decreased almost 8 percent from 1974 levels. Exports through the Rainy River region of northwestern Ontario, representing 55 percent of the total, decreased over 12 percent. Movements into north-

eastern New York State, about 45 percent of total exports, decreased less than 1 percent.

Gas industry use in line compressor fuel and other transmission and distribution operations decreased around 25 percent from 1974 levels.

Storage

Increased movements of gas from and into storage reflected the higher rate of use of storage pools for meeting peak seasonal requirements.

Withdrawals in the first quarter of 1975 were 23 percent higher than the corresponding 1974 quarter and were a major factor in the increased level of withdrawals in 1975 being up by nearly 9 percent. Withdrawals in the fourth quarter of 1975 (the initial portion of the 1975/76 fall to spring withdrawal period) were 18 percent lower than in 1974.

Deposits into storage rose over 26 percent resulting in a net excess of deposits over withdrawals by the year end.

At the end of September 1975 (marking the end of the summer injection period) there were over 132 million Mcf of natural gas available for sale in storage, nearly 12 percent higher than the corresponding 1974 level.

The higher level of storage capacity resulted from the continuing conversion of former gas and oil producing wells of Lambton county in southwestern Ontario.

In 1975, Union Gas Ltd. made storage and transportation agreements with Northern & Central Gas Corp. Toronto, Kingston Public Utilities Commission, and Gaz Metropolitain Inc., Montreal. Under these agreements, gas will be stored in the Sarnia area during the summer months and moved by TransCanada PipeLines to meet peak winter demands of these firms.

Sales

In 1975, sales of natural gas decreased 2 percent from 1974 levels. Sales in Ontario continued to account for around half of total sales in Canada.

Sales to residential consumers during 1975 decreased over 2 percent from the previous year although the number of customers increased over 3 percent.

Consumption by commercial users increased less than 1 percent while the number of customers increased by 3 percent. Combined use by residential and commercial consumers maintained their level of about 40 percent of total sales as in 1974.

The number of industrial consumers declined less than 1 percent in 1975 as in 1974 and industrial sales decreased nearly 3 percent. Industrial consumption continued to represent about 60 percent of total sales.

Ontario Natural Gas Balance 1975

	Thousands Cubic Feet*	Percent of Total	Changes 1975/74	1974/73
<u>Supply</u>				
Ontario production	10,935,471	1.5	45.1	-20.9
Receipts from Western Canada	694,411,177	97.1	-0.2	6.2
U.S.A.	10,153,120	1.4	-23.3	-10.2
Propane Air	704,564,297	Ø	-34.0	-66.5
Total Supply	5,821	100.0	Ø	5.5
	715,505,589			
<u>Disposition</u>				
Sales to consumers	637,715,743	89.1	-2.0	12.3
Free Gas	26,564	-	-5.2	5.0
Company Use	19,345,569	2.7	-25.6	-14.8
Total Consumption		91.8	-2.9	10.9
Gas to Storage (net)	25,562,177	3.6	246.7	-82.8
Gas to Province of Quebec (net)	1,386,328	0.2	-37.3	64.0
Exports to U.S.A.	12,312,302	1.7	-7.6	0.9
Line Pack	5,113,500	0.7	Ø	Ø
Metering, Line Loss & other Unaccounted for	14,043,406	2.0	Ø	Ø
Total Disposition	58,417,713	100.0	Ø	5.5
	715,505,589			

* At 14.73 psia

NATURAL GAS IN ONTARIO

Figure 5

Source: Ontario Natural Gas Industry

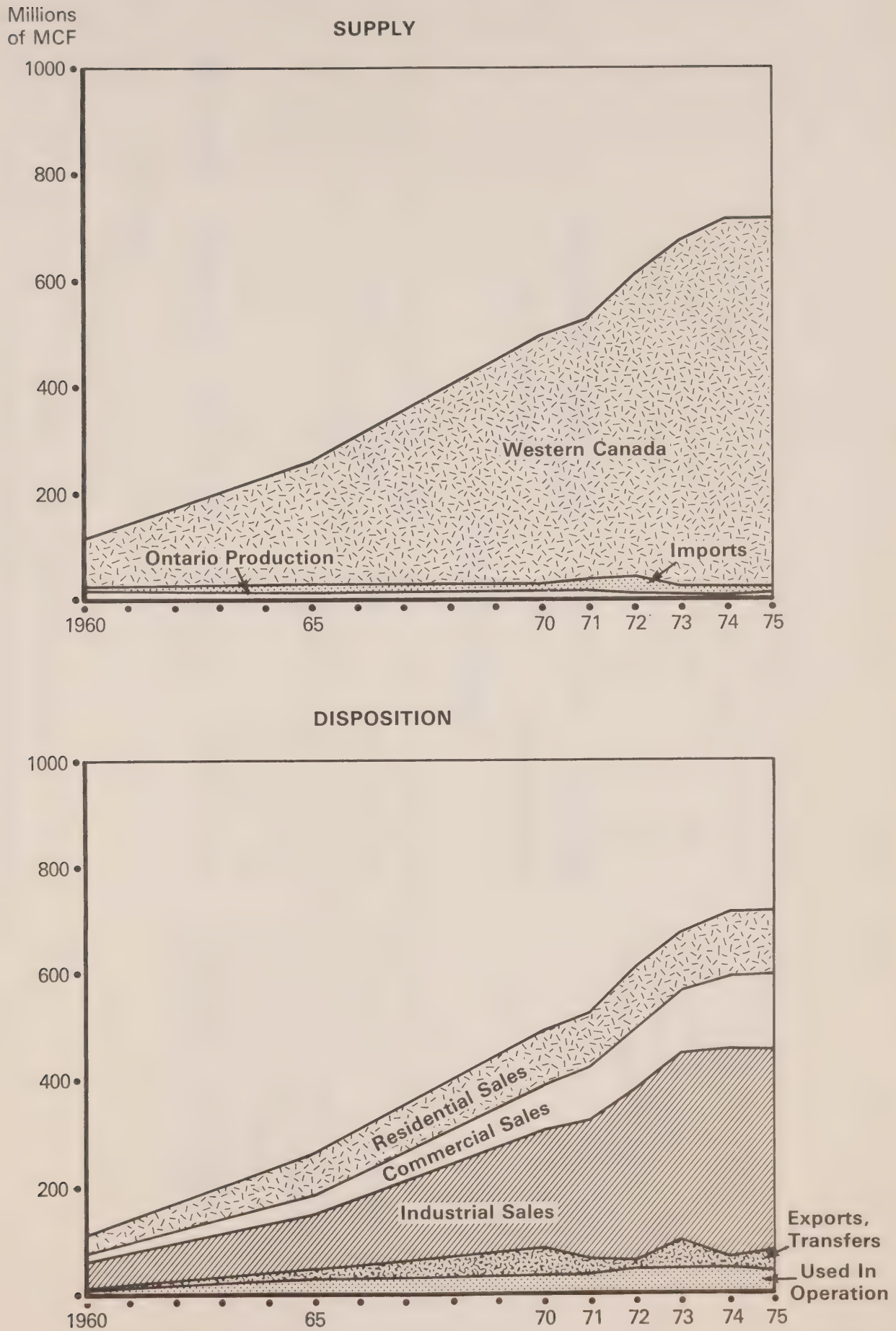


Table 8

Natural Gas Sales in Ontario 1975

Comparative Totals by Consumers Categories

Quantities in Thousands Cubic Feet

Category of Consumer	Number of Consumers	Percent Changes 1975			
		over 1974		over 1970	
		Quantities	Number of Consumers	Quantities	Number of Consumers
Residential	910,734	121,276,742	3.5	-2.5	21.8
Commercial	95,044	139,441,061	3.0	0.8	32.0
Industrial	11,165	376,997,940	-0.1	-2.8	24.7
TOTALS	1,016,943	637,715,743	3.5	-2.0	22.8
					57.3

Percent Changes

	1974 over 1973		1974 over 1969	
	Number of Consumers	Quantities	Number of Consumers	Quantities
Residential	4.0	11.1	23.2	28.6
Commercial	6.9	18.2	40.4	92.9
Industrial	-0.1	10.7	38.7	110.0
TOTALS	4.2	12.3	24.8	85.0

PROPANE IN ONTARIO

In 1975, receipts of propane from natural gas processing plants in western Canada increased 16 percent and supplied around 55 percent of total requirements. Production from Ontario oil refineries increased about 4 percent and accounted for the balance of supply of 45 percent.

Sales to distributors rose 12 percent and transfers for use by the petrochemical industry increased 14 percent.

Underground storage for propane and other liquid hydrocarbons was increased by further development of salt cavern reservoirs in the Sarnia area.

Table 9

Propane Receipts and Disposition in Ontario (1)

1975

In Barrels

	Quantities	of	Percent	
		Total	Changes	
			1975/74	1974/73
<u>SUPPLY</u>				
Refinery production	2,220,694	41.3	3.9	9.1
Interprovincial transfers IN	3,097,758	57.6	16.3	20.0
OUT	41,228		-46.0	-28.6
Net transfers	3,056,530	56.8	27.6	22.6
Inventory changes	97,208			
Net Canadian Supply	5,374,432	99.9	15.6	14.2
Imports	3,530	0.1	-5.9	5.5
Less Exports	-			-100.0
Net Imports	3,530			
TOTAL SUPPLY	5,377,962	100.0	15.5	18.4
<u>DISPOSITION</u>				
Petrochemical and Industrial	1,227,797	22.8	14.0	42.1
Distributors (2)	4,050,978	75.3	12.1	20.1
Sub-Total	5,278,775	98.1	12.5	24.4
Plant and refinery use	81,786	1.5	-34.0	690.0
Losses or gains	-87,711	-1.6		
Adjustments	105,112	1.9		
TOTAL DISPOSITION	5,377,962	100.0	15.5	18.4

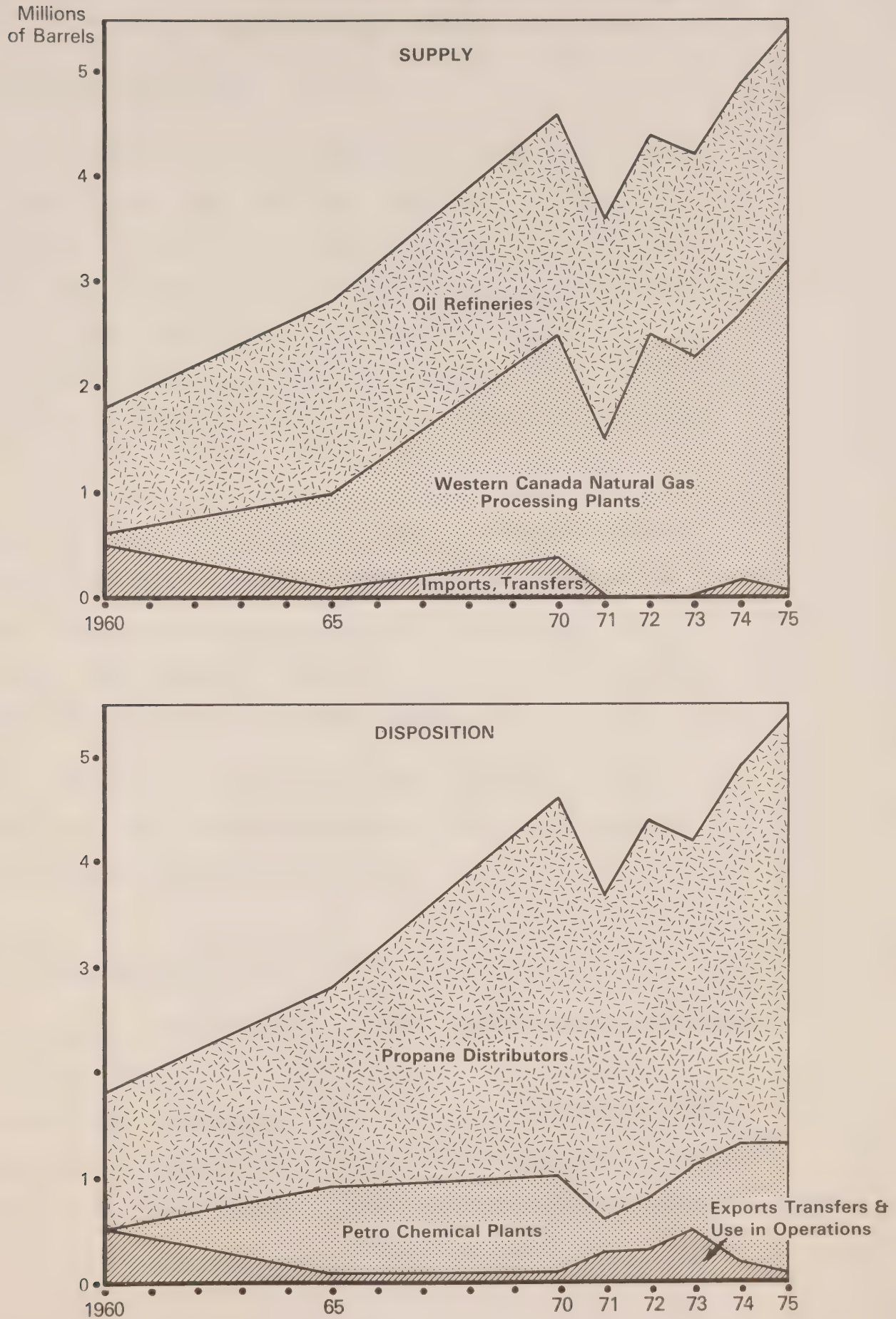
Note (1) Statistics Canada No. 57-002

(2) Identifiable industrial sales are included.
Distributor sales may contain sales to industrial.

PROPANE IN ONTARIO

Figure 6

Source: Statistics Canada No. 45-204, 57-002, 57-207, 57-505



PIPELINES IN ONTARIO

Natural Gas Pipelines

In 1975, TransCanada PipeLines began construction on 48 miles of loop line from Toronto to Montreal; 32 miles in Ontario and 16 miles in Quebec. 26 miles of this looping were placed in service during 1976; completion of the remaining 22 miles was deferred until 1977. The construction programme for 1976 includes 17 miles of line which will complete looping of the extension to Ottawa.

Consumers Gas and Union Gas each added around 200 miles to their distribution lines in southern Ontario. Union also completed an 11 mile 42-inch transmission line link between their Dawn field and Oil Springs, Lambton county, and planned a further 17 miles for 1976 between Dawn and Strathroy, Middlesex county.

The decrease in transmission pipelines mileage resulted mainly from conversion of about 150 miles to distribution use during the year.

Natural Gas Liquids Pipelines

Around mid-1976, the National Energy Board authorized construction of the Canadian portion of an 1,900-mile natural gas liquids pipeline from Fort Saskatchewan near Edmonton, Alberta, through the U.S.A. to Sarnia. Initial work is to start in 1977. Known as the Cochin Pipeline,

the 75,000 bpd line will carry propane, ethane and ethylene and is expected to be completed by the early 1980's.

Oil Pipelines

Interprovincial PipeLine was authorized by the National Energy Board in May 1975 to commence construction on the 520-mile 30-inch extension from Sarnia to Montreal of its pipeline from western Canada. Work commenced in September and the extension was completed in June 1976. This was followed by initial movements of crude oil through this line.

TABLE 10
PIPELINE MILEAGE IN ONTARIO - 1975

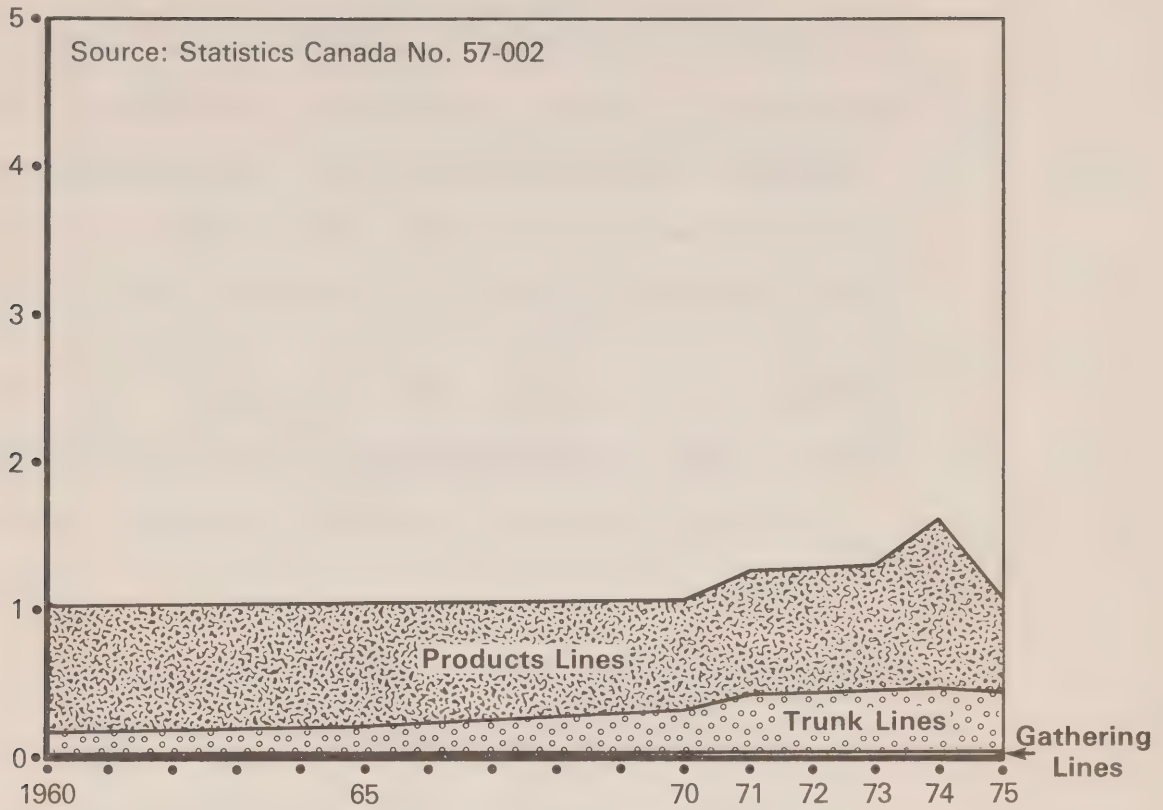
	<u>Miles</u>	<u>Percent</u>	
		<u>1975/74</u>	<u>1974/73</u>
<u>Natural Gas Pipelines</u>			
Gathering	997	-2.6	-7.7
Transmission	5,766	-1.9	7.6
Distribution	<u>17,256</u>	<u>2.9</u>	<u>1.6</u>
TOTAL	24,019	1.5	2.8
<u>Oil Pipelines</u>			
Gathering	18	Ø	Ø
Crude Oil Trunk Lines	443	Ø	Ø
Oil Product Lines	<u>1,145</u>	<u>7.5</u>	<u>25.3</u>
TOTAL	1,606	5.2	18.0
TOTAL ALL PIPELINES	<u>25,625</u>	<u>1.4</u>	<u>3.6</u>

ONTARIO PIPELINE MILEAGE

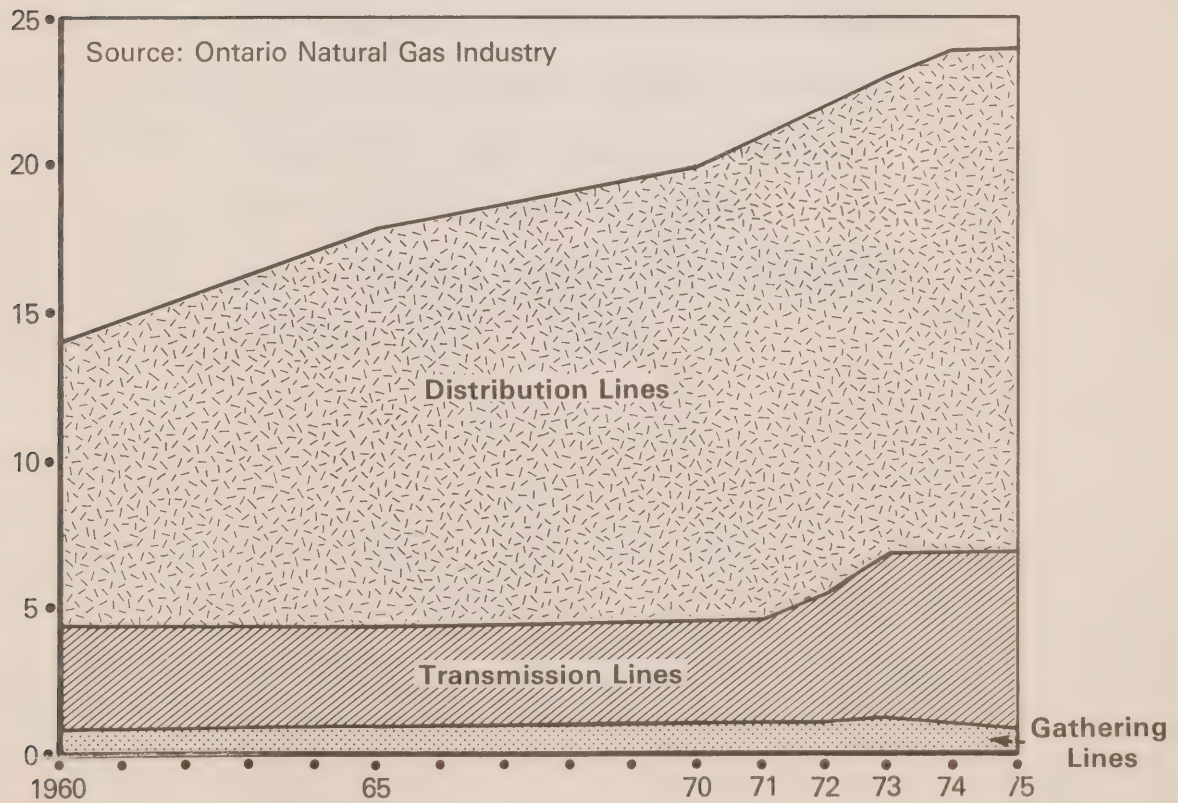
Figure 7

Thousands
of Miles

OIL PIPELINES



NATURAL GAS PIPELINES



COAL IN ONTARIO

In 1975, coal consumption in Ontario increased 18 percent over 1974 and supplied 15 percent of provincial energy requirements. About half was used in thermal generation of electricity. Most of the remainder was consumed in steel foundries and other industrial uses.

The bulk of Ontario's coal supplies was imported from the United States; Canadian sources supplied the remaining 5 percent. Supplies from both sources increased.

By the year-end, stocks of coal on hand were 16 percent higher than at the beginning of the year.

The price of imported coal increased further following the sharp increases of 1974.

In order to diversify its sources of supply and to supplement imports for meeting future demand, Ontario Hydro concluded agreements in mid-1976 with western Canada producers which will result in shipments of around 3 million tons of coal a year by the 1980's for fuelling its thermal generating stations.

Table 11

ONTARIO COAL BALANCE 1975 (1)

(In thousands of short tons,
rounded to the nearest 1000)

		(2)			<u>Percent Changes</u>	
		<u>Anthra- cite</u>	<u>Bitumi- nous</u>	<u>Lig- nite</u>	<u>Total</u>	<u>1975/74</u> <u>1974/73</u>
<u>SUPPLY</u>						
Domestic: Western Provinces		-	778	54	832	301.4 520.0
	Nova Scotia	-	159		159	1490.0 -75.0
	Total	-	937	54	991	257.8 480.0
Imports: U.S.A.		60	16,536		16,596	30.5 -19.3
	Total Coal Supply	60	17,473	54	17,587	35.3 -17.8
<u>DEMAND</u>						
Industrial: Consumption (3)		47	7,845	50	7,942	-1.8 -0.8
	Net to Inventory (4)	12	1,302	4	1,318	Ø Ø
	Total Demand	59	9,147	54	9,260	26.8 -14.0
Other (5)	Total Demand	1	8,326		8,327	46.4 -22.3
	Total Coal Demand	60	17,473	54	17,587	35.3 -17.8

(1) Statistics Canada No. 45-002.

(2) Includes sub-bituminous in small quantities.

(3) Industrial Consumption excludes firms using less than 1,000 tons per annum and coal "charged to ovens" to make coke (includes electric utilities).

(4) Excludes stocks held by firms using less than 1,000 tons per year and stocks held by coke producers.

(5) Retail to residential, commercial and industrial users including coke production, railway, ship bunker, government and institutional consumption, which is calculated by the difference between the total coal supply and the sum of (3) and (4).

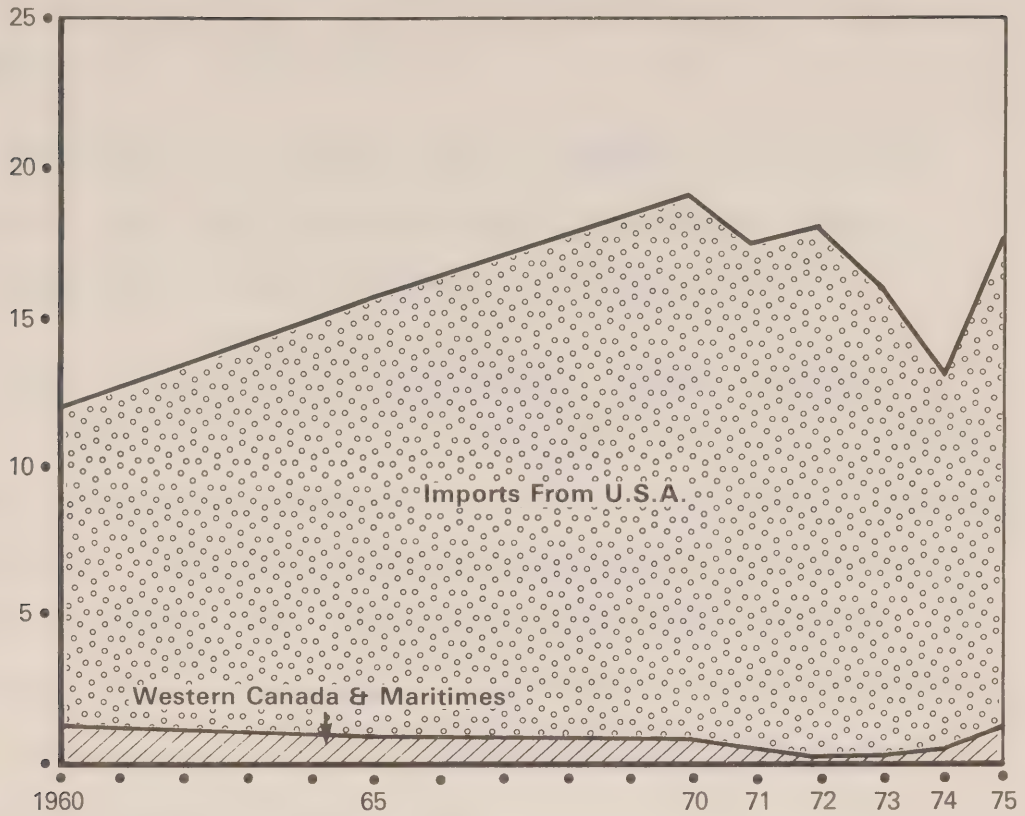
COAL IN ONTARIO

Figure 8

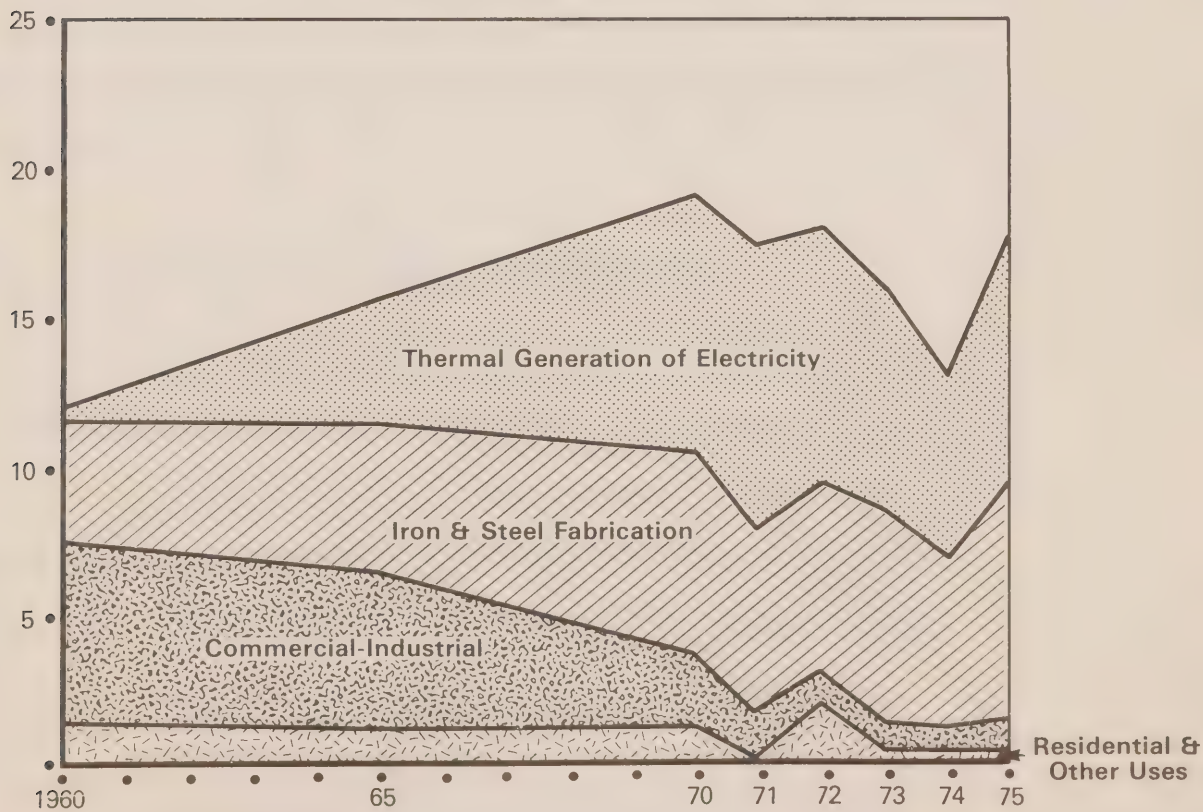
Source: Statistics Canada No. 45-002, 57-505 & 57-207

Millions
of Short Tons

SUPPLY



DISPOSITION



ELECTRICITY IN ONTARIO

General

Consumption of electricity in Ontario during 1975 increased less than 1 percent from 1974 levels after the 6 percent increase in that year over 1973.

Power from hydraulic generation (which provided about 41 percent of total electricity) decreased 8 percent. Thermal generation, both fossil and nuclear-fired, supplied 43 percent. Nuclear generation provided 13 percent or nearly 12 billion kwh. Purchases from other sources including imports increased 10 percent to nearly 16 billion kwh. Exports and sales to other provinces decreased 37 percent to around 5 billion kwh.

In February 1976, Ontario Hydro revised its schedule for construction of additional generating and related facilities, resulting in delays in their completion of up to two years.

Ontario Hydro Generating Plant Developments

During 1975, the 500 MW unit 5 of the Nanticoke 4,000 MW coal-fired generating station was brought into service. In addition, unit 2 was returned to service at the year-end upon completion of repairs caused by fire in mid-1974. This resulted in 5 units being operational

by year-end 1975. Commissioning of unit 6 was scheduled for late 1976. The plant is expected to be fully operational by early 1978.

The first 500 MW unit of the oil-fired Lennox station near Kingston entered service in January 1976. All 4 units of this 4 x 500 MW plant are to be in service by early 1977. Initial shipments of residual oil by unit-trains from Quebec for this station had commenced by year-end 1974.

The only hydraulic plant under construction, the Arnprior 2 x 39 MW generating station, was producing power from its first 39 MW unit by early summer of 1976 and the second is expected to come on line around that year-end.

Unit 3 of the Pickering "A" 4 x 540 MW nuclear station was returned to service in March 1975 following correction of heavy water leaks found in August 1974. Subsequently, similar problems encountered with Unit 4 necessitated its shut-down for repairs which were completed early in 1976. As a result, 1975 output from Pickering of 11 billion kWh declined over 15 percent from 1974 levels. Units 1, 2, and 3 reached an average capacity factor of 85 percent. By January 1976 Pickering had produced over 50 billion kWh since initial startup, the first nuclear-electric station in the world to reach this level of output. Construction of Pickering "B" generating station with the same capacity as Pickering "A" had its completion date postponed one year and the first of its four units are planned to be operating by 1981.

Construction progressed at the new Bruce "A" 4 x 750 MW nuclear generating station. The unit 2 reactor started up in September 1976 and unit 1 in December 1976. This station is expected to be in-service by 1979. The Bruce "B" station with similar capacity as Bruce "A" had its in-service date deferred one year with the first unit planned for startup in 1983.

The 200 MW Douglas Point nuclear generating station reached an overall capacity factor of over 70 percent in 1975. About 55 percent of its output was supplied to the Bruce heavy water plant as steam and the remainder was fed to the Ontario Hydro system as electricity.

Construction of a 4 unit 3,400 MW nuclear generating station at Darlington, near Bowmanville, was deferred one year. Initial power output is scheduled for 1985.

The Wesleyville oil-fired 4 unit 2,295 MW station has been delayed two years and is scheduled for completion by 1983.

Preliminary work began on the 4 x 200 MW coal-fired generating station near Atikokan. Further construction has been deferred one year and all four units are expected to be in operation by 1984.

The Thunder Bay 2 x 150 MW coal-fired extension to the existing station was postponed one year with completion expected by 1981.

The E-15 generating plant planned for location along the North Channel of Lake Huron was deferred two years and initial output is scheduled for 1987.

Heavy Water

In 1975, the Bruce 800-ton per year (tpy) heavy water plant produced nearly 670 tons of reactor-grade water representing a decrease of about 6 percent in production over 1974. By early 1976, output at Bruce reached a level of about 85 percent of total capacity.

Construction of the second 800 tpy heavy water Bruce Plant B which was commenced in 1974, had its completion date postponed 1 year to early 1980. Completion of the Bruce D plant of similar capacity also was deferred 1 year to late 1980. The Bruce C heavy water plant was cancelled.

In 1975, Canadian supplies of heavy water domestically produced and imported were lower than 1974 levels. Pursuant to the heavy water pool agreement, AECL purchased about 670 tons from Bruce, 160 tons from the Port Hawkesbury plant in Nova Scotia, and 62 tons of imports from Norway and Russia.

Reconstruction of AECL's 400 tpy heavy water plant at Glace Bay, Nova Scotia, was completed and brought into

service early in 1976. An 880 tpy plant is under construction at LaPrade, adjacent to the Gentilly nuclear generating site opposite Three Rivers, Quebec; initial operation is planned for 1979.

Uranium

During 1975, production of uranium in Ontario increased to 10 million pounds, an increase of more than 25 percent over 1974 levels. Ontario production accounted for over 85 percent of Canadian production.

A new uranium mine is being developed by Agnew Lake Mines Ltd. near Espanola which is east of Ontario's extensive uranium deposits in the Elliot Lake region. Madawaska Mines Ltd. recently was incorporated to recover uranium from an inactive mine near Bancroft. Other major Canadian uranium deposits are mainly centred in North Saskatchewan.

Future Developments

In 1975, engineering work began on the Watts from Waste project. This pilot project involves modifying one of the 300 MW units at the Lakeview coal generating station near Toronto to accept processed garbage as fuel. Scheduled for operation in 1979, it is estimated that the use, after processing, of 500 tons a day of garbage will reduce by 10 percent the coal needed to fuel one adapted boiler.

Table 12 Electric Energy Balance 1975

	Ontario Hydro (1)	Ontario (2)		
	Billions (10 ⁹) kwh	Billions (10 ⁹) kwh	Percent 1975/74	Changes 1974/73
<u>Supply</u>				
Utilities Generation				
- Hydraulic	35.1	36.8	-7.5	2.3
- Thermal				
Conventional, etc.	26.3	26.3	5.2	10.1
Nuclear	11.8	11.8	-14.4	-2.8
- Total	73.2	74.9	-4.8	3.8
Industry Generation				
- Hydraulic	-	1.6	0	-5.9
- Thermal	-	1.9	-9.5	10.5
- Total	-	3.5	-5.4	2.8
Total Generation				
- Hydraulic	35.1	38.4	-7.3	2.0
- Thermal				
Conventional, etc.	26.3	28.2	4.1	10.2
Nuclear	11.8	11.8	-14.4	-2.8
- Total	73.2	78.4	-4.9	3.8
Net Purchases (3)	10.7	10.7	72.6	44.2
<hr/>				
Total Supply	83.9	89.1	0.6	5.9
<hr/>				
<u>Disposition</u>				
Sales				
- Commercial & Industrial		43.9	-4.4	4.1
- Domestic & Farm		19.3	3.2	6.3
- Street Lighting		0.5	0	0
- Total Sales		63.7	-2.2	4.7
Own Plant Use		8.6	6.2	5.2
Unallocated and Distribution by Non-respondents		16.8	9.1	11.6
<hr/>				
Total Disposition		89.1	0.6	5.9

(1) Ontario Hydro Corporation

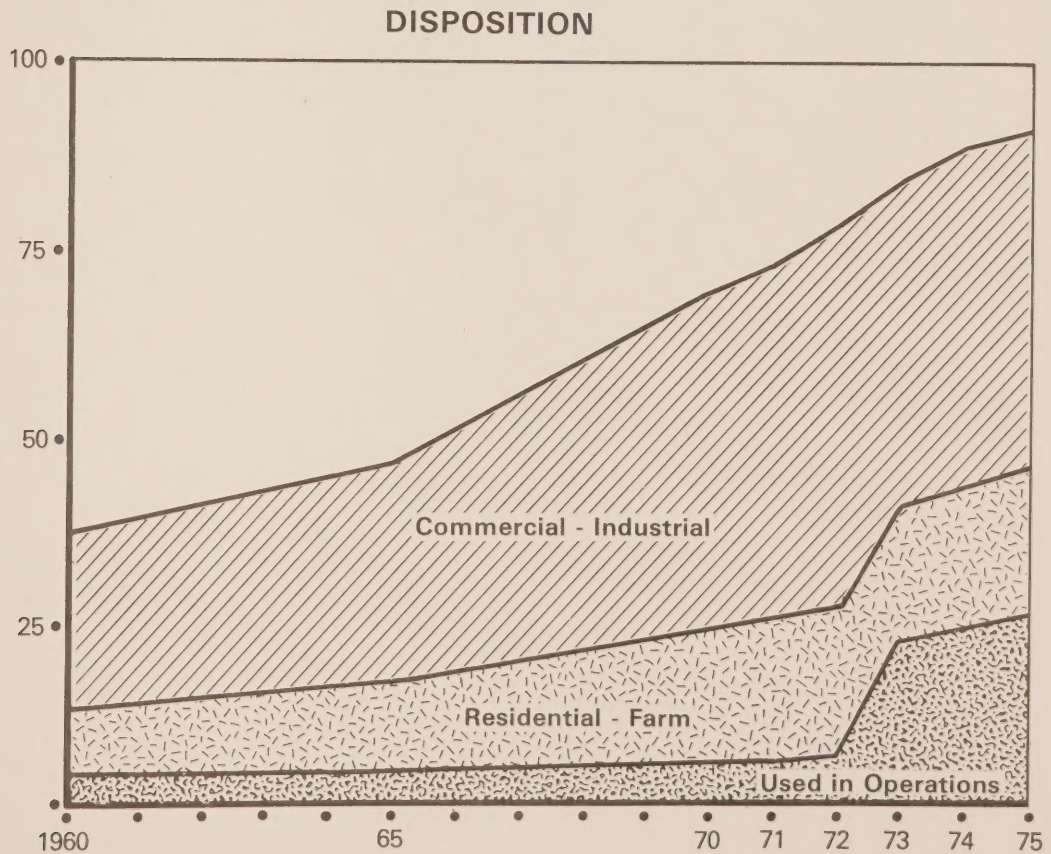
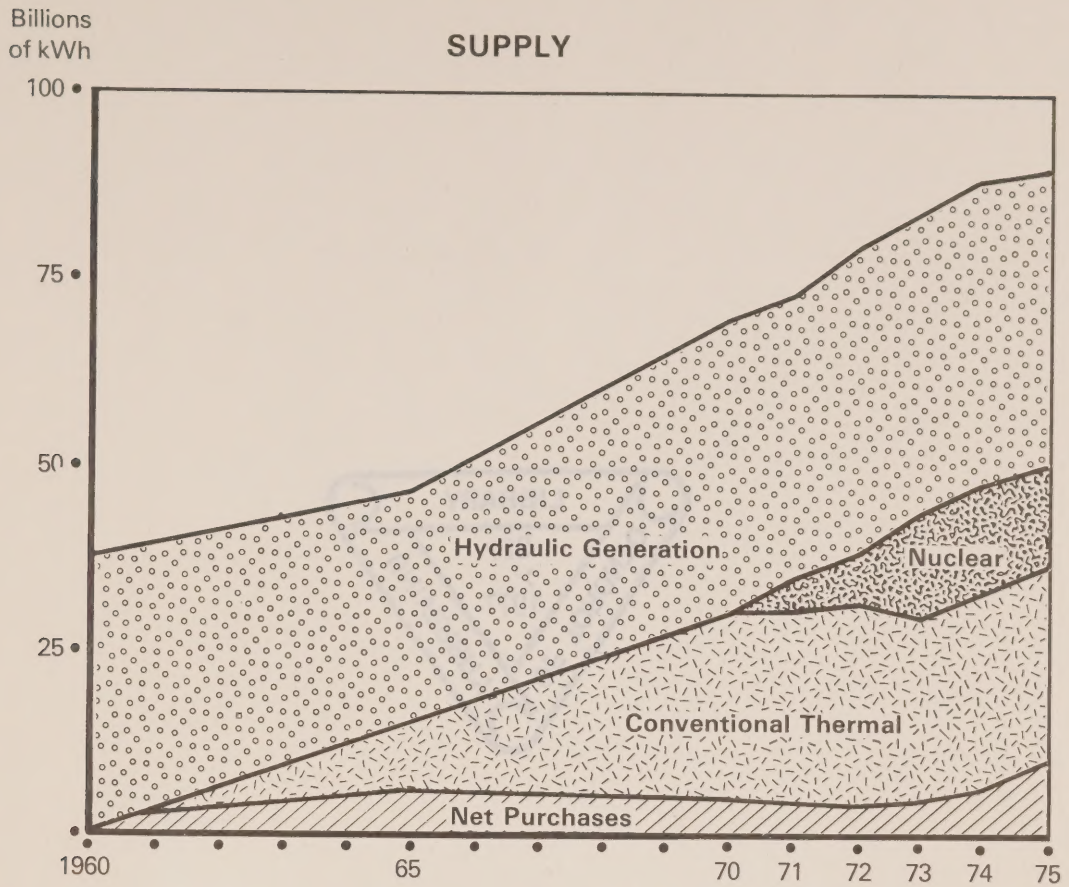
(2) Statistics Canada No. 57-001

(3) Other Provinces and USA only; excludes transfers within Ontario and purchases from AECL Douglas Point Nuclear Generating Station which is included in "Nuclear".

ELECTRICITY IN ONTARIO

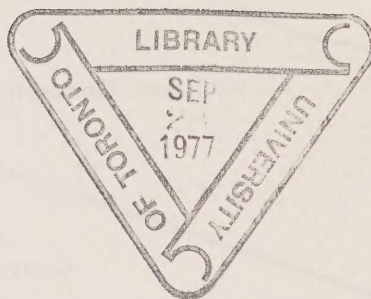
Source: Statistics Canada No. 57-001 & 57-202

Figure 9



SUPPLY

100
75
50
25
0



DEMAND



